

ASYMMETRIC COMPARATOR FOR LOW POWER APPLICATIONS

Abstract of the Disclosure

A method and structure for comparing an input signal to a reference signal using a comparator comprises a circuit for setting a trip point of a rising edge of an input signal according to a value of an external voltage reference; and at least two transistors, in the circuit, for setting a trip point of a falling edge of an input signal, according to a width-to-length ratio of the at least two transistors. Moreover, the at least two transistors comprises a first transistor of length (L_x) and a width of (W_x); and a second transistor of length (L_y) and a width of (W_y), wherein the width-to-length ratio equals $(W_x L_y)/(W_y L_x)$. The trip point of a falling edge of an input signal increases (decreases) by increasing (decreasing) the width-to-length ratio.